

# ONTARIO Fisheries

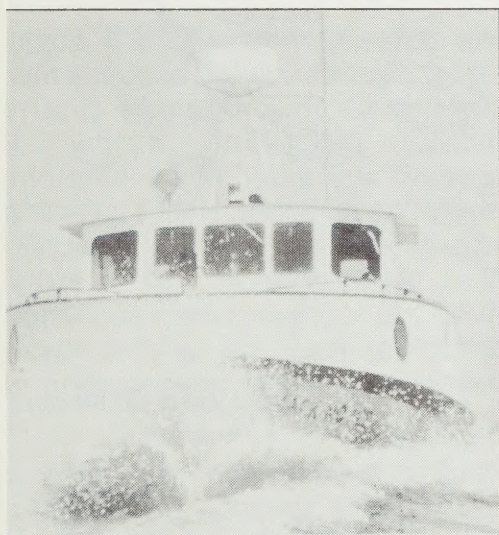
# Update

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Spring 1990



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## INTRODUCTION

The Lake Ontario fishery is an extremely valuable resource which is utilized by a diversity of users.


Lake Ontario provides one of the highest quality recreational fisheries in the world. It is estimated that Lake Ontario and the St. Lawrence River sustain 1.57 million and 200,000 angler-days respectively, on an annual basis. Based on angler expenditures, the economic value of the Lake Ontario fishery alone exceeds 50 million dollars.

In recent years, the dynamic trout and salmon fishery has also led to a dramatic increase in the number of charter boats to the point where there are now approximately 350 charter boat fisheries catering to anglers.

The commercial fishery, concentrated in the eastern basin of the lake and the St. Lawrence River, produces a landed catch valued in excess of one million dollars annually and provides local employment and income opportunities for an estimated 200-300 people.

The Lake Ontario Fisheries Update newsletter has been initiated in order to provide information on current fisheries management topics on the Ontario portion of Lake Ontario. This inaugural issue will detail the administrative structure of Lake Ontario management agencies, outline some current issues facing fisheries managers and highlight some of the management programs planned for 1990.





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# ONTARIO Fisheries

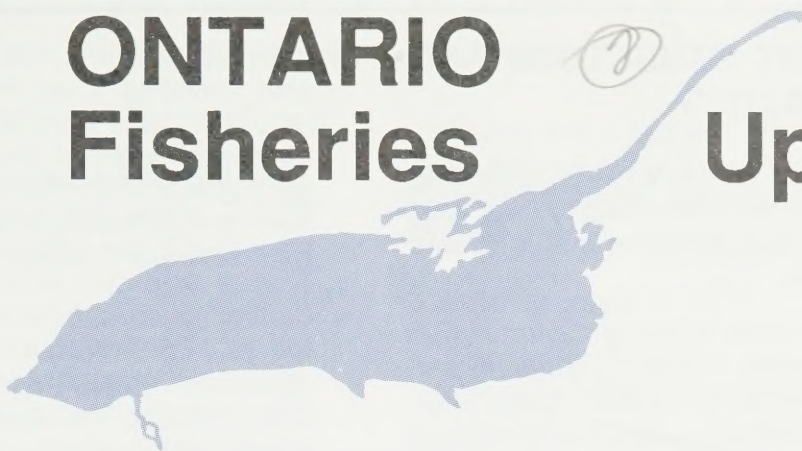
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# Update



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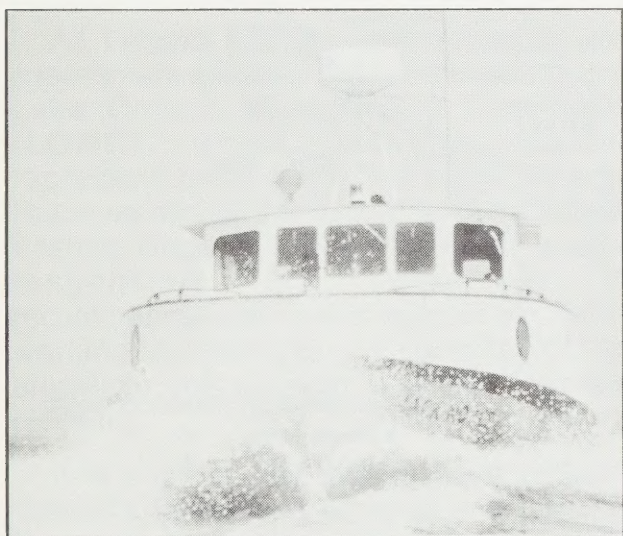
Ministry of  
Natural  
Resources



Spring 1990



*Over 200,000 angler-days of fishing effort are spent annually on Lake Ontario.*



*The Lake Ontario commercial fishery produces an annual landed catch valued at almost one million dollars.*

## INTRODUCTION

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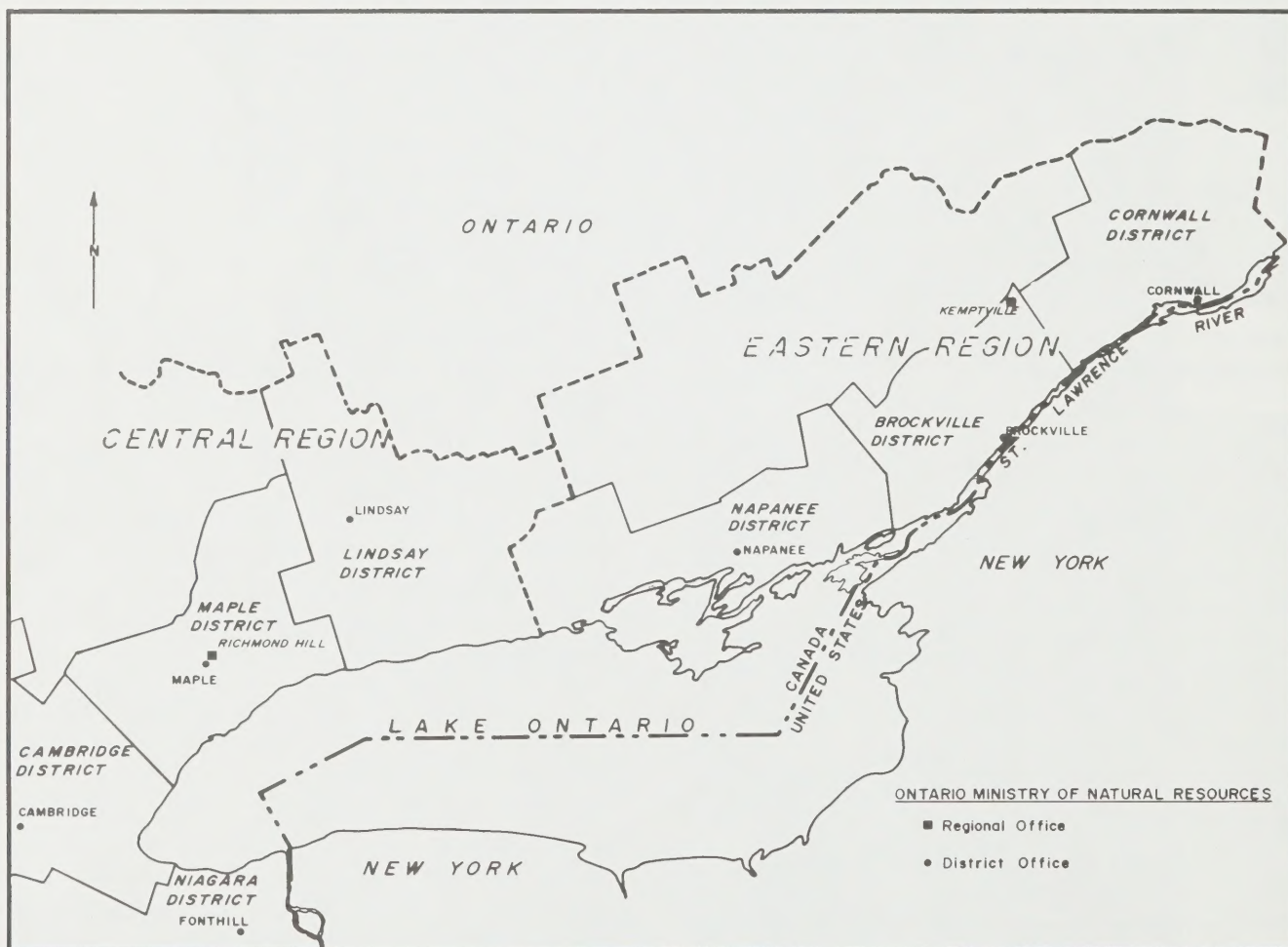
## MANAGEMENT STRUCTURE AND RESPONSIBILITIES

Since many of the Great Lakes, including Lake Ontario, are boundary waters, management of their fisheries is shared with the United States.

The Great Lakes Fishery Commission (GLFC) was formed in 1955 to develop and coordinate fisheries research programs, advise governments on measures to improve fisheries and to implement programs to control the sea lamprey. The commission is based on equal representation from both countries. Funding for sea lamprey research and control is shared on a 69:31 ratio between the United States and Canada, respectively.

In the performance of its functions, the GLFC depends heavily on the official agencies of the individual states of the United States and the province of Ontario. A committee comprised of representatives from the GLFC, the province of Ontario and the respective states has been formed for each Great Lake. Chairmanship of these committees rotates on a two year basis between agencies.

The Lake Ontario Committee (LOC) meets each spring to review ongoing programs, discuss lake-wide issues of concern and develop common management strategies. Delegates attending this meeting represent the Great Lakes Fisheries Commission,



Management of the Ontario portion of Lake Ontario's fishery is shared by seven districts and two administrative regions of the OMNR.



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United States Fish and Wildlife Service, Canada Department of Fisheries and Oceans, Ontario Ministry of Natural Resources (OMNR) and the New York State Department of Environmental Conservation (NYDEC). In addition, representatives from major fisheries user groups often attend these meetings.

A number of international Lake Ontario subcommittees are in place to share information and implement cooperative programs. These include the St. Lawrence River subcommittee, Lake Trout Rehabilitation subcommittee and the Lake Ontario Enforcement subcommittee.

For the Ontario waters of Lake Ontario, ongoing management programs such as fisheries enforcement, stocking, fish habitat protection and rehabilitation are shared by the Niagara, Cambridge, Maple and Lindsay districts in the Central administrative region and the Napanee, Brockville and Cornwall districts in the Eastern administrative region of the Ontario Ministry of Natural Resources. Fisheries research and assessment activities are coordinated and implemented by the Lake Ontario Fisheries Unit (LOFU) at Glenora. Programs include index fishing and creel surveys, catch monitoring of both the commercial and angling fisheries and studies to evaluate the progress of lake trout rehabilitation.

All Ontario management, research and assessment activities are coordinated by the Lake Ontario Management Committee (LOMC) which includes OMNR representatives from Fisheries Branch, Napanee district, LOFU and the Central and Eastern Regions. This committee is also responsible for responding to recommendations from a number of OMNR working committees on such topics as stocking, enforcement and management planning.

It is obvious that management of Lake Ontario's fisheries is complex and requires the cooperative efforts of many groups and agencies around the lake.

## CURRENT ISSUES

There are a number of serious problems and issues which currently face Lake Ontario's fisheries managers. Some of these include:

### Exotic Species

The Lake Ontario fish community has undergone major changes as a result of habitat change, overfishing and the introduction of exotic species. Exotic or non-indigenous fish species may be considered beneficial (rainbow trout, brown trout, Pacific salmon) or detrimental (sea lamprey).

Two recent invaders of greatest concern are the river ruffe and zebra mussel. Both species are believed to have the potential to have a profound impact on the Lake Ontario fishery.



*The recent introduction of some non-native species such as the river ruffe to Lake Ontario has raised concerns for the future of some native fisheries.*



## **Incidental Catch in the Commercial Fishery**

The Lake Ontario commercial fishery is based primarily on yellow perch, lake whitefish, eels and a variety of coarse fish species. In recent years the incidental catch of other non-target species, notably immature walleye and lake trout, has been a subject of concern. Recent management actions have included season, gear and area restrictions for gill nets and promoting conversion to live capture gear. The fishery is closely monitored to evaluate the success of these measures. As a result of these actions, the problem of incidental catch is currently not believed to be a major issue on Lake Ontario.

## **Toxins and Fish Consumption Restrictions**

The waters of Lake Ontario are known to contain a number of toxins which have contaminated the aquatic environment.

Ontario Ministry of Natural Resources and Ontario Ministry of the Environment (OMOE) currently collect, analyze and publish results of contaminant findings in fish and the implications for human consumption. Efforts are also underway to implement rehabilitative plans for some heavily contaminated areas through the Remedial Action Plan (RAP) process.

## **Stocking and the Forage Base**

Recent studies have indicated that the forage base, notably alewife and smelt, may not be able to sustain an increased predator biomass of salmon and trout. As a result of this concern about the status of the Lake Ontario forage base, both New York and Ontario have agreed to cap annual trout and salmon stocking at a combined maximum of 8.2 million fish. New assessment programs, designed to enhance our understanding of the distribution and abundance of these species, are presently being developed.



*Over 2.5 million trout and salmon are stocked each year in Lake Ontario by OMNR.*



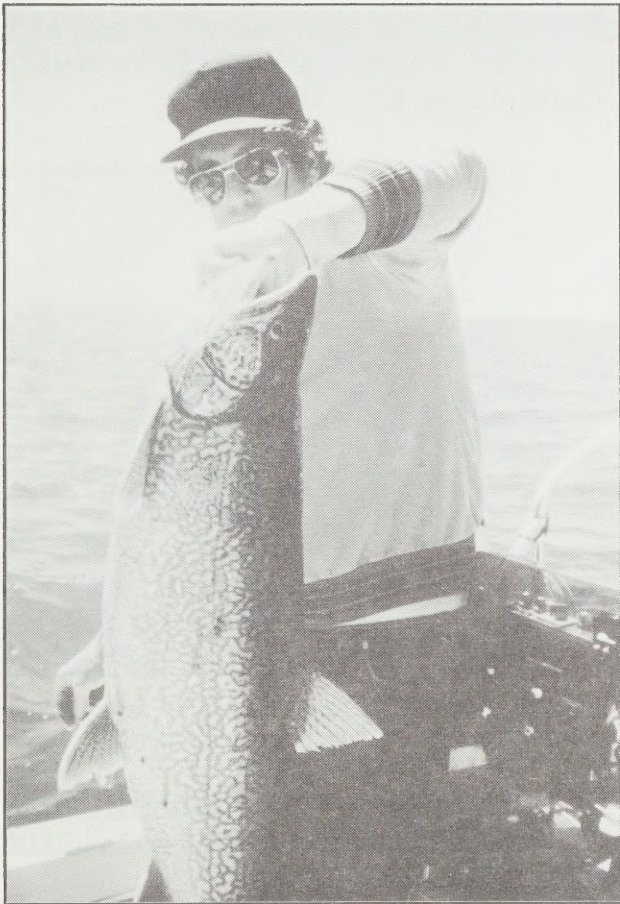
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## CURRENT AND UPCOMING PROGRAMS

A number of other management programs are carried out on an annual basis. These include:

### Research and Assessment Activities

The Lake Ontario Fisheries Unit (LOFU) implements a number of research and assessment programs to monitor different fisheries in various parts of Lake Ontario. An annual report summarizing project results is prepared and submitted to the Lake Ontario Committee each spring.



*The Lake Ontario Fisheries Unit monitors the harvest of planted trout and salmon in Lake Ontario.*

During the upcoming field season LOFU programs will include index netting in the Kingston basin, midwater and nearshore trawling projects, creel surveys in the Bay of Quinte and western basin, fisheries habitat

assessment and mapping, walleye population assessment on the Bay of Quinte, index netting with the US Fish and Wildlife Service to evaluate the status of lake trout rehabilitation and the continuation of fry studies designed to monitor natural reproduction of lake trout on Yorkshire Shoal.

### Community Oriented Lake Assessment (COLA)

COLA is a cooperative program with the New York Department of Environmental Conservation and U.S. Fish and Wildlife Service. This program is designed to establish a lakewide database to monitor the status and relative abundance of all major fish species, including forage species, in Lake Ontario.

To date, efforts have been devoted to solving methodological problems involved in such an extensive survey. In 1990, nearshore index fishing will be carried out in the western basin (Brighton to Niagara) with the intent of establishing a lakewide index series by 1991. Midwater trawling and hydroacoustic surveys will also be conducted during the upcoming field season.

### St. Lawrence River Fisheries Management Unit

Funded by revenues from the Ontario resident angling licence, the St. Lawrence River Fisheries Management Unit (SLRFMU) was formed in 1987 to coordinate fisheries assessment projects and initiate river-wide studies on the St. Lawrence River. To date the unit's efforts have focused on index fishing programs, creel surveys and muskellunge assessment.

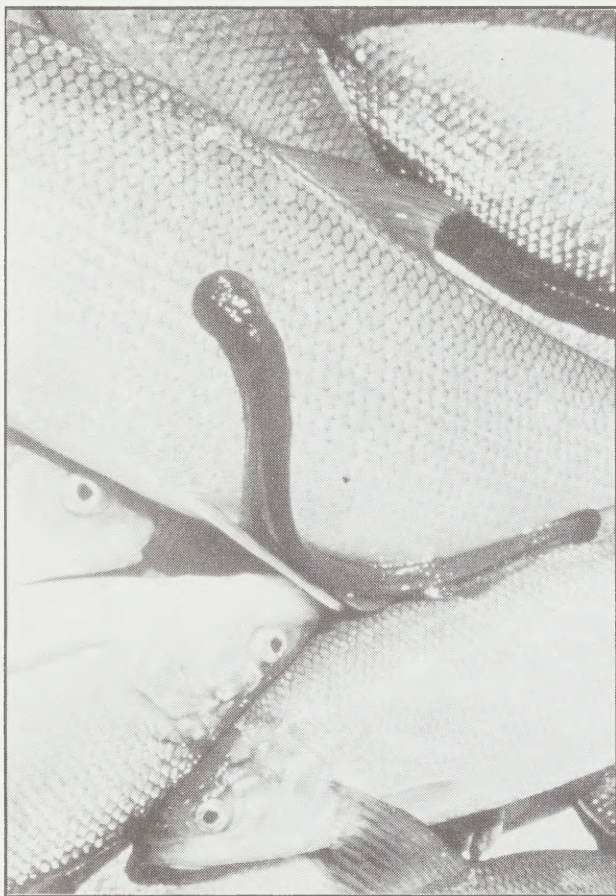
A summary of Ontario and New York fisheries management programs on the St. Lawrence River is prepared each year and presented at the annual meeting of the Lake Ontario Committee.



In 1990, planned activities include index fishing in Lake St. Francis and the Brockville (Middle) Corridor, as well as muskellunge radio tagging and habitat assessment.

### Sea Lamprey Control

Sea lamprey control on both sides of Lake Ontario is carried out by the Department of Fisheries and Oceans (Canada) and involves annual programs to treat nursery streams with lampricide, use barrier weirs and carry out research on alternate forms of lamprey control such as male sterilization.



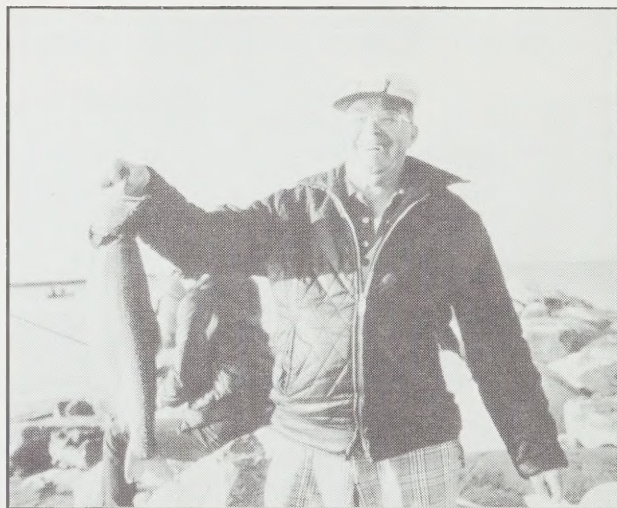
*Sea lamprey control has reduced the abundance of this predator in Lake Ontario.*

In 1990, nine tributaries are scheduled for spring treatment with lampricide TFM. The Ontario streams include Duffin Creek, Lynde Creek, Oshawa Creek and Mayhew Creek. Larval surveys will be carried out on approximately 60 streams (30 Ontario and 30 New York). New sampling efforts will focus

on tributaries in the Kingston-Brockville areas. Adult studies designed to provide indices of spawning adult abundance will be conducted on five Ontario tributaries (Humber River, Duffin Creek, Britan Creek, Shelter Valley Creek and Bowmanville Creek). No new permanent barrier dams are planned for 1990.

### Stock Rehabilitation

Efforts have been underway for several years to restore viable populations of both Atlantic salmon and lake trout which were native to Lake Ontario before they became extinct by the 1890's and 1950's, respectively. As part of this ongoing rehabilitation program the OMNR will be planting approximately one million lake trout and 50,000 Atlantic salmon into the Ontario waters of Lake Ontario in 1990.



*Stocking programs are intended to re-establish naturally reproducing lake trout populations.*

An updated version of the Joint Plan for the Rehabilitation of Lake Trout in Lake Ontario will be released later this year.

### Remedial Action Plans (RAPs)

Nine sites on Lake Ontario and the St. Lawrence River have been identified where water quality has been impaired and teams from the government, citizen and industrial sectors have been formed to define problems and identify corrective measures. Five of



these RAPs are in Ontario and are currently in varying stages of completion. A series of habitat rehabilitation projects have recently been proposed.

### **Lake Ontario Fisheries Management Plan**

Efforts are underway to prepare a comprehensive, long term fisheries management plan for the Ontario waters of Lake Ontario. It is anticipated that the first draft of this management plan will be available for public review and comment by the spring of 1990.

In addition, all seven OMNR districts bordering Lake Ontario and the St. Lawrence River are formulating district fisheries management plans which will include tributary streams and rivers.

## **LAKE                      ONTARIO FISHERIES            UPDATE NEWSLETTER**

*The Lake Ontario Fisheries Update is published twice a year (Spring and Fall) to update anglers, interest groups and the general public about fisheries management activities on Lake Ontario and the St. Lawrence River.*

*If you would like to have your name added to the mailing list for this free publication, please contact:*

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